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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,137	03/10/2004	Michael L. Leonhardt	94-045-TAX (STK 94045 PUS	7119

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STORAGE TECHNOLOGY CORPORATION
ONE STORAGE TEK DRIVE, MS-4309
LOUISVILLE, CO 80028-4309

EXAMINER	
PORTKA, GARY J	
ART UNIT	**PAPER NUMBER**
2188	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/803,137	LEONHARDT ET AL.	
	Examiner	Art Unit	
	Gary J. Portka	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 15-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 11, 13, 15, 23, 26-29, and 32-42 have been amended, and claims 14 and 43 have been canceled by Applicant. Claims 1-13 and 15-42 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13 and 15-42 are rejected under 35 U.S.C. 102(a or e) as being anticipated by Blendermann et al., US 6,094,605 (hereinafter "Blendermann").

4. As to claims 1, 32, and 33, Blendermann discloses a data storage system for storing data for a host processor comprising a plurality of data storage devices, each having different data storage attributes (devices 24, 26, 28, and 30, Fig. 1), outboard storage manager presenting a virtual image of a desired attribute (see col. 3 lines 6-24) by organizing the physical devices in an arrangement suitable for providing it based on their attributes (since in the hierarchical systems described, a higher level may include some, but not all data included in a lower level) such that the arrangement emulates the virtual storage image (see col. 3 lines 25-35) and transferring data between the host and arrangement via the virtual image (see col. 3 lines 36-49). Blendermann also

discloses interim storage in an analogous system as recited (see 32, Fig. 1, also col. 1 line 58 to col. 2 line 2, and col. 2 line 58 to col. 3 line 5).

5. As to claims 2-10, the virtual image of Blendermann may be considered to include any of the types to the extent claimed.

6. As to claims 11-13, 15-17 and 34, all limitations are disclosed or inherent to Blendermann as described in the sections cited above, to the extent claimed.

7. As to claims 18-22, the types of physical storage are either disclosed in Blendermann or at least notoriously well known and therefore clearly obvious to those of ordinary skill in the art.

8. As to claims 23-31 and 35-42, the limitations regarding storage levels of the physical devices are disclosed or inherent to Blendermann, since levels may be interpreted as cache and disk, different disks, or ranges on a single disk.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-13 and 15-42 are rejected under 35 U.S.C. 103(a) as being obvious over Bakke et al., US 6,330,621 B1 (hereinafter "Bakke"), in view of Belsan, US 5,394,532 (hereinafter "Belsan"), or alternatively over Bakke in view of Blendermann.

The applied reference Bakke has a common assignee and inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it

constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

11. As to claims 1, 32, and 33, Bakke discloses a data storage system for storing data for a host processor comprising a plurality of data storage devices, each having data storage attributes (Fig. 1, items 151, 152, and 153), outboard storage manager presenting a virtual image of a desired attribute (Fig. 1, 110, col. 2 lines 57-59) by organizing the physical devices in an arrangement suitable for providing it based on their attributes such that the arrangement emulates the virtual storage image (see Abstract, Figs. 2 and 4, col. 1 lines 4-11, col. 2 lines 20-32. col. 3 lines 14-50, col. 4 line 35 to col. 5 line 30) and transferring data between the host and arrangement via the virtual image (Abstract). Bakke does not disclose an interim storage as recited.

12. As to claims 1, 32, and 33, Belsan discloses a data storage system for storing data for a host processor comprising a plurality of data storage devices, each having data storage attributes (certain native format attributes such as those of 5.25 drives, see col. 4 lines 26-43 and col. 14 lines 18-25), outboard storage manager presenting a virtual image of a desired attribute (control unit 101, Fig. 1, the image of the desired virtual format, see Abstract, col. 2 lines 29-57, and col. 4 lines 50-56) by organizing the physical devices in an arrangement suitable for providing it irrespective of their attributes (since as cited at col. 4 the drives are "typically" 5.25, but not required to be so; further, claim 1 at col. 14 merely recites "native" format) such that the arrangement emulates the virtual storage image (see Abstract, col. 2 lines 18-27) and transferring data between the host and arrangement via the virtual image (clearly the purpose and indicated by Figs. 4 and 5). Belsan discloses interim storage as recited (cache 113, Figs. 1 and 2, and at least some speed matching buffering, see col. 6 lines 43-47). Belsan does not disclose providing a desired attribute based on combining physical devices having different attributes.

13. Blendermann also discloses interim storage in an analogous system as recited (see 32, Fig. 1, also col. 1 line 58 to col. 2 line 2, and col. 2 line 58 to col. 3 line 5). The advantages of increased performance by caching and by speed matching by buffer, as taught by Belsan or Blendermann, would have been easily seen by an artisan as providing the same benefits to Bakke.

14. Alternatively, the advantages of providing a desired attribute by combining different devices is taught by Bakke; that is, different devices are desirable to achieve

known combinations of performance and cost, with the ability to present such a system having a desired attribute. Clearly this provides the advantage of allowing different devices, and thus providing a desire balance between performance and cost, that would have been desirable in the system of Belsan. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine these references as recited, because the advantages of each would have been known to be applicable to the other.

15. As to claims 2-10, the virtual image of Bakke and Belsan may be considered to include any of the types to the extent claimed.

16. As to claims 11-13, 15-17 and 34, all limitations are disclosed or inherent to Bakke and Belsan as described in the sections cited above, to the extent claimed.

17. As to claims 18-22, the types of physical storage are either disclosed in Bakke and Belsan or at least notoriously well known and therefore clearly obvious to those of ordinary skill in the art.

18. As to claims 23-31 and 35-42, the limitations regarding storage levels of the physical devices are disclosed or inherent to Bakke and Belsan, since levels may be interpreted as cache and disk, different disks, or ranges on a single disk.

Double Patenting

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

20. Claims 1-13 and 15-42 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of US 6,094,605 in view of US 6,330,621. Claims 1-13 and 15-42 are also rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of US 6,330,621, in view of US 5,394,532. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims are an obvious variation over those of the patent. For example, claims 1 and 32-33 of the present invention disclose a system and method comprising a manager presenting a virtual storage image by organizing physical devices in an arrangement providing a desired data storage attribute based on the attributes of the devices, and using interim storage such that the arrangement emulates the virtual data storage image. Claims 1 and 6 of 6,094,605 are also directed to a system and method comprising a manager that presents a virtual storage image (emulate a type of data storage device) by organizing physical devices in an arrangement (thus clearly based on attributes thereof), also using interim storage. Claims 1, 2, 6 and 7 of 6,330,621 are also directed

to a system and method comprising a manager that presents a virtual image using different storage devices. The motivations for combing these references are discussed under the 35 USC 103 rejections above. One of ordinary skill in the art can readily recognize that the broadest reasonable interpretation of the present claims and those of the patents encompass the same invention.

21. Claims 1-13 and 15-42 are directed to an invention not patentably distinct from claims 1-9 of commonly assigned 6,094,605 and claims 1-10 of US 6,330,621 (see double patenting rejection above).

22. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 6,094,605 and 6,330,621, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

23. A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J. Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary J Portka
Primary Examiner
Art Unit 2188

April 10, 2006

GARY PORTKA
PRIMARY EXAMINER